

ABSTRACT OF THE DISCLOSURE

A semiconductor device in which electro-thermal conversion elements and switching devices for flowing currents through the elements are integrated on a first conductive type semiconductor substrate. The switching devices are insulated gate type field effect transistors having a second conductive type first semiconductor region on one principal surface of the semiconductor substrate; a first conductive type second semiconductor region for supplying a channel region and for adjoining the first semiconductor region; a second conductive type source region on the surface of the second semiconductor region; a second conductive type drain region on the surface of the first semiconductor region; and gate electrodes on the channel region with a gate insulator film between them. The second semiconductor region is formed by a semiconductor having an impurity concentration higher than that of the first semiconductor region, and is disposed between two adjacent drain regions, separating them in a traverse direction.